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(11) Publication number: 02

Generated Document.

PATENT ABSTRACTS OF JAPAN

(21) Application number: 63166151

(51) Intl. Cl.: C23C 14/46

(22) Application date: 04.07.88

(30) Priority:

(43) Date of application
publication: 18.01.90(84) Designated contracting
states:

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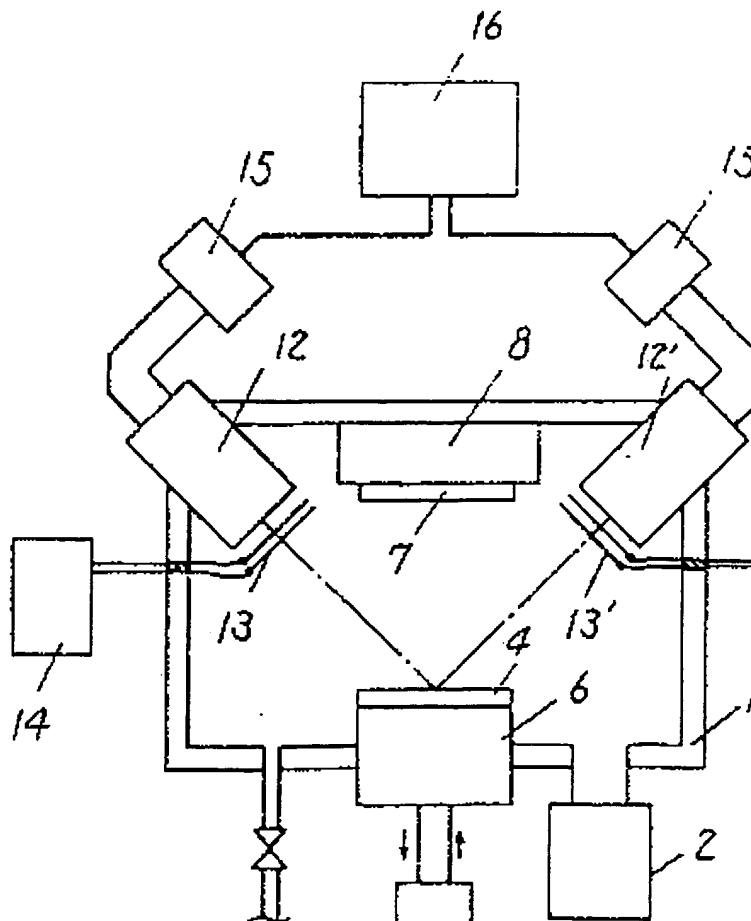
(74) Representative:

(54) ION BEAM SPUTTERING
DEVICE AND PRODUCTION
OF THIN MULTICOMPONENT
FILM

(57) Abstract:

PURPOSE: To form a thin multicomponent film free from the partial nonuniformity of composition ratio by staggering the time for the production of each individual ion beam and also changing voltages to be impressed on respective ion beam-drawing systems by means of individual ion guns.

CONSTITUTION: Microwave ion guns 12, 12' and ion beam-drawing systems 13, 13' equal or larger in number to or than the number of the components of a material contained in a sputtering target 4 are placed so that they radiate from the sputtering target 4 and have prescribed angles with respect to the target surface. A beam control device 16 in which radiant mode is regulated so that ion beams from individual plural ion guns 12, 12'











are emitted intermittently and the time for the radiant mode in the individual ion guns 12, 12' is staggered is provided.

Simultaneously, drawing voltages to be impressed on the respective ion beam-drawing systems 13, 13' are changed with every ion gun.

Accordingly, the nonuniform distribution of composition ratio at the time of forming a thin multicomponent film is removed, and the thin film of stable quality can be formed.

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Patent Plaques Recognize the achievement	 JP2015168A2: ION BEAM SPUTTERING DEVICE AND PRODUCTION OF THIN MULTICOMPONENT FILM
	View Images (1 pages) View INPADOC only
Country:	JP Japan
Kind:	
Inventor(s):	TSUDA YOSHIYUKI YASUI HIDEAKI MUKAI YUJI TANAKA HIROYOSHI
Applicant(s):	MATSUSHITA ELECTRIC IND CO LTD News, Profiles, Stocks and More about this company
Issued/Filed Dates:	Jan. 18, 1990 / July 4, 1988
Application Number:	JP1988000166151
IPC Class:	C23C 14/46;
Abstract:	<p>Purpose: To form a thin multicomponent film free from the partial nonuniformity of composition ratio by staggering the time for the production of each individual ion beam and also changing voltages to be impressed on respective ion beam-drawing systems by means of individual ion guns.</p> <p>Constitution: Microwave ion guns 12, 12' and ion beam-drawing systems 13, 13' equal or larger in number to or than the number of the components of a material contained in a sputtering target 4 are placed so that they radiate from the sputtering target 4 and have prescribed angles with respect to the target surface. A beam control device 16 in which radiant mode is regulated so that ion beams from individual plural ion guns 12, 12' are emitted intermittently and the time for the radiant mode in the individual ion guns 12, 12' is staggered is provided. Simultaneously, drawing voltages to be impressed on the respective ion beam-drawing systems 13, 13' are changed with every ion gun. Accordingly, the nonuniform distribution of composition ratio at the time of forming a thin multicomponent film is removed, and the thin film of stable quality can be formed.</p> <p>COPYRIGHT: (C)1990,JPO&Japio</p>
Other Abstract Info:	DERABS C90-062847 DERC90-062847
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